



## U.S. GLOBAL HEALTH POLICY

# INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH: OVERVIEW & CONSIDERATIONS FOR U.S. GOVERNMENT PARTICIPATION

October 2011



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## INTRODUCTION

Global health is entering a time of funding uncertainty. While the previous decade saw significant increases in support for global health programs,<sup>1</sup> many are concerned that funding from donor governments, private aid organizations, and foundations – the traditional sources of assistance for global health – may not grow further or may even decline in the aftermath of an international financial crisis and mounting efforts to control public expenditures and debt.<sup>2,3</sup> In addition, advocates see ongoing missed opportunities in advancing global health-relevant technologies (including drugs, vaccines and diagnostics) due to a reliance on financing mechanisms that do not necessarily provide enough research and development-related incentives for addressing the health concerns of low- and middle-income countries.<sup>4,5,6</sup> Therefore, in order for global health programs to maintain and expand their impact in the coming years, there is increasing interest in identifying ways to supplement traditional sources of health assistance, and adopting new methods of financing global health programs, research, and development to complement existing approaches.<sup>7</sup> The issue has been placed on the agenda at the upcoming Group of Twenty (G-20) Summit in France later this year, with Bill Gates scheduled to deliver a report to G-20 leaders addressing financing for development.<sup>8</sup>

For these reasons, there is growing attention to “innovative financing mechanisms,” a broad category of novel approaches to raising and spending funds for global health. While exact definitions of innovative financing may differ, a key dimension of such mechanisms is that they have the potential to supplement and expand on the impact of existing and traditional channels of health assistance by tapping into new resources or squeezing out more impact from the resources that are available.<sup>9</sup> As such, many see innovative financing mechanisms as tools that could help to bridge some of the global health financing and technological innovation gaps experienced by low- and middle-income countries.

While the U.S. government has been at the forefront of designing and implementing some innovative financing mechanisms, it has been less likely to embrace others. The Obama Administration has championed innovation for development, emphasizing the positive impacts that new approaches and technologies can have on global health and other areas of development. For example, “innovating for results” has been included as one of the four key implementation components of the Global Health Initiative (GHI), the Administration’s six-year, proposed \$63 billion effort to implement a comprehensive global health strategy,<sup>10</sup> and support for “game-changing innovations” was named an agency priority by the U.S. Agency for International Development (USAID).<sup>11</sup> At the same time, a number of existing innovative financing mechanisms do not have the support of the U.S. government for reasons that range from concerns about their cost-effectiveness and perceived feasibility, to policy and legal challenges posed by a need for making upfront, multi-year funding obligations, changes in tax law, or other issues. So, while U.S. interest in innovative approaches to global health may be growing, it is unclear whether or how this momentum will translate into increased support for innovative financing mechanisms, especially in light of important policy and legal issues raised by some of them and the potential trade-offs that may be involved. For example, the innovative financing mechanism currently attracting the most support from European governments and others in the lead up to the G-20 is the Financial Transaction Tax, a mechanism the U.S. does not support.<sup>12</sup>

To help assess these issues, this paper first defines, and provides a classification system for, different types of innovative financing mechanisms for global health. It next presents an inventory of innovative financing mechanisms that are currently in use or proposed and examines the status of U.S. government participation in these mechanisms. Finally, it explores potential policy barriers and opportunities for further U.S. government engagement.

## DEFINING INNOVATIVE FINANCING

The concept of innovative financing is complex, with no single, widely accepted definition currently in use. Rather, multiple definitions have been proposed over time ranging in how expansively the concept is defined, the categories of mechanisms included, and other factors (see Box 1). For example, some definitions are relatively narrow in scope, focusing only on those mechanisms which tap into new revenue sources, while others include a broader set of mechanisms, reaching beyond the generation of new revenue sources to encompass tools intended to stimulate research and development (R&D) or those designed to make more efficient and effective use of existing funds.<sup>13,14,15,16,17</sup> Furthermore, some definitions focus on global health specifically, while others apply the term more broadly to include new financing approaches for climate change, education, and other areas of international development in addition to global health.

Despite the lack of a single definition, several common elements run through these multiple concepts of innovative financing. For example, innovative financing mechanisms are typically presented in contrast to “traditional” mechanisms for raising and delivering aid. “Traditional” mechanisms for global health financing include direct bilateral and multilateral assistance provided by government donors, or funds channeled through private philanthropy; innovative approaches to funding attempt to raise funds from other sources or catalyze financing in unique, non-traditional ways. Likewise, “traditional” methods of financing innovation and R&D for global health rely on private industry investments subject to existing, standard market incentives or governmental research grants, while innovative approaches might attempt to shift market incentives toward greater investment in global health R&D or stimulate public-private research partnerships. In this way, innovative financing mechanisms are meant to add value by raising additional funds and/or make existing funds go farther. They are meant to be complementary to existing, traditional approaches, but are not designed to displace or replace them.

### MECHANISM CATEGORIES

For the purpose of this paper, we build upon prior definitions to identify three main categories of innovative financing mechanisms for global health. These are described below, and are contrasted with more “traditional” financing mechanisms. These categories are further divided into sub-categories based on their approach, as listed in Box 2 and described in Methodology.

- **Novel funding mechanisms<sup>18</sup>** – Traditional sources of funding for global health programs are bilateral or multilateral official development assistance (ODA) given by donor governments, and private donations made through foundations and charities. In contrast, novel funding mechanisms are

#### BOX 1. DEFINITIONS OF “INNOVATIVE FINANCING”

The term “innovative financing” has been defined in different ways by different organizations. Three prior definitions for the term are:

- “[A]ny financing approach that helps to generate additional development funds...enhance the efficiency of financial flows...[or] make financial flows more results-oriented.”  
-The World Bank<sup>13</sup>
- “[N]ew sources of development financing [that] are closely linked to global public goods, and complement conventional official development assistance.”  
-The Leading Group on Innovative Financing for Development<sup>14</sup>
- “[N]on-traditional applications of overseas development assistance, joint public-private, or private mechanisms and flows that 1) support fund-raising by tapping new sources..., or 2) deliver financial solutions to development problems on the ground.”  
-The High Level Taskforce on Innovative Financing for Health Systems<sup>15</sup>

those that aim to tap into or free up new funds beyond these traditional channels or to make more aid more “economically efficient” (e.g., by making it more rapidly available). Examples of novel funding mechanisms include: the use of bonds to “front-load” funding, implementation of new tax schemes to raise additional funding for global health, debt relief channeled to global health, and loan guarantees or risk pooling vehicles that seek to catalyze private investments in health projects in developing countries.

- *Mechanisms to stimulate innovation, research, and development (R&D)*<sup>19</sup> – Traditionally, financial support for innovation, research, and product development for global health issues has relied on public research grants (e.g., funding provided to researchers and innovators by government agencies like the U.S. National Institutes of Health or the U.S. Agency for International Development) and standard market incentives for private-sector investment (e.g., private pharmaceutical companies pursuing R&D projects based on expected market potential). Research grants can be considered a source of “push” funding that drives innovations through the R&D pipeline, while the incentives provided by future market sales can be considered a source of “pull” financing for R&D. By contrast, innovative mechanisms in this category use novel “push” and “pull” strategies to accelerate or scale-up the development and production of innovations and technologies relevant to global health (such as medicines, vaccines, and diagnostics), as well stimulate greater distribution and better access to them. They are intended to go beyond what traditional grant or market incentive mechanisms can do for example, by serving to alter standard market incentives (e.g., through increasing the incentives to invest in R&D) or providing public research funding in non-traditional ways (e.g., through tax credits, prizes, or based on the health impact of innovations).
- *Mechanisms incentivizing performance and/or results*<sup>20</sup> – Traditionally, donors have provided global health aid by paying for inputs (e.g., the infrastructure, training, commodities, and supplies needed to implement health programs), using funding that is not explicitly conditional on subsequent program performance nor on the ultimate impact on health. Innovative mechanisms in this category, by contrast, aim to provide funding that is conditional on performance or results in order to improve outcomes and impacts. They aim to alter incentives faced by recipient governments and organizations, or individual beneficiaries, in such a way as to improve performance, achieve better results, or to have individuals adopt healthier behaviors compared with traditional input-based, non-conditional financing approaches. Examples of performance or results-based mechanisms include aid that is contingent on explicit criteria (i.e., recipients must meet certain quality or other benchmarks to merit consideration for assistance) or aid distributed according to measurable health outcomes or impacts rather than health inputs.

## *TYPES OF PUBLIC/PRIVATE INVOLVEMENT*

Innovative financing mechanisms may also be characterized according to level of public and private sector involvement; depending on their construct and approach, mechanisms may be classified as belonging to one of the following three types: “Public,” “Private,” or “Mixed” mechanisms.

“Public” mechanisms are those that require governmental involvement to be implemented. Examples of “Public” mechanisms include those requiring changes to tax policy (such as a Financial Transactions Tax), or in regulations or legislation (such as the U.S. Federal Drug Administration’s Priority Review Voucher). “Private” mechanisms are those that do not require governmental support or involvement to function, such as voluntary consumer-based contribution programs and Impact Investing. “Mixed” mechanisms feature combined public and private sector involvement, although the role of the public sector across these mechanisms can vary. Examples of “Mixed” mechanisms include those that use public funds to

back credit guarantees or finance risk pooling to catalyze private investments, or an Advance Market Commitment backed by public funds that are used to stimulate private research, development, or distribution of health technologies.

## METHODOLOGY

To identify innovative financing mechanisms for global health for this analysis, we conducted a literature review and interviewed key experts. Our review encompassed both mechanisms that are currently operational (defined as those that are functioning in at least one country, even if only in a pilot or trial phase) and those that remain proposals yet to be implemented. Not all mechanisms identified were included in the final list; to make determinations about which mechanisms to exclude or include we considered the following factors: the complementarity/additionality of each mechanism to traditional aid approaches, the actual or potential relevance of each mechanism to global health (as opposed to other development objectives), and the attention given to the mechanism in the literature and by experts. As such, the list of mechanisms is meant to be representative, but not entirely exhaustive of all innovative financing options available.

After determining the final list, we placed each mechanism into one of the three mechanism categories outlined above. When a given mechanism spanned more than one category, we assigned it to the category we considered most directly captured its primary approach and purpose. Within each category, we further sub-categorized the list of mechanisms by type of approach, identifying five sub-categories of novel funding mechanisms, two sub-categories among mechanisms that stimulate innovation/R&D mechanisms, and two sub-categories among those that incentivize performance and results (see Box 2.)

### BOX 2. Classification Scheme for Innovative Financing Mechanisms for Global Health

#### ***Novel funding mechanisms***

- Sub-categories:
  - **Directing private investment**, catalyzing private investments in health
  - **Consumer-based funding**, tapping into voluntary contributions from consumers
  - **Front-loading funds**, leveraging long-term pledges of assistance to generate funding in the short-term
  - **Re-directing credits or debts**, leveraging credits and debts for financing
  - **New taxes or levies**, new funds generated by applying taxes to select transactions

#### ***Mechanisms to stimulate innovation, research & development (R&D)***

- Sub-categories:
  - **“Push” mechanisms**, financing or other incentives provided to innovators up front, which reduce risks or costs of R&D
  - **“Pull” mechanisms**, financial rewards or other incentives provided to innovators for progress or completion of research, development, or scale-up of production, which enhance market opportunities

#### ***Mechanisms incentivizing performance/results***

- Sub-categories:
  - **Supply side**, meant to incentivize governments and health care providers
  - **Demand side**, meant to incentivize patients/clients of health care system

Each mechanism was selected based on its representation of an innovative financing approach, and any given mechanism may have more than one implementation example. For instance, there are multiple organizations that support a risk pooling or credit guarantee approach to catalyzing private investments, including the U.S. Overseas Private Investment Corporation (OPIC), USAID's Development Credit Authority (DCA), the Pledge Guarantee for Health (PGH), and the World Bank's Multilateral Investment Guarantee Agency (MIGA). Rather than list these each of these instruments individually, they are included under the common umbrella of "Risk Pooling/Credit Guarantees" (within the sub-category of "directing private investments," under the category of *novel financing mechanisms*). Similarly, there are multiple examples of "Results-Based Aid" approaches (within the sub-category "supply side results-based mechanisms" under the category *mechanism incentivizing performance/results*), from the benchmark eligibility restrictions placed on Compact funding provided through the Millennium Challenge Corporation to Global Fund grant continuations that are contingent on meeting minimum performance levels.



## FINDINGS

Findings are presented in two parts. First, the characteristics of the mechanisms are summarized and described. Then, the nature of U.S. engagement with the mechanisms is summarized and discussed.

### MECHANISMS BY CLASSIFICATION AND KEY CHARACTERISTICS

In all, 31 innovative financing mechanisms for global health across the three main categories were identified for inclusion. Table 1 summarizes the counts of mechanisms by category and sub-category, while Table 2 lists each of the mechanisms, its type of public/private involvement, and operational status. Additional details and further descriptions of each of the mechanisms are presented in the attached Appendix tables.

<b>TABLE 1. INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH: Counts By Category and Sub-category</b>	
<b>Mechanisms by Category and Sub-Category</b>	<b>#</b>
<i>Novel financing mechanisms</i>	<b>14</b>
Directing private investment	3
Voluntary consumer-based funding	3
Front-loading funds	1
Re-directing credits or debts	4
New taxes or levies	3
<i>Mechanisms to stimulate innovation, R&amp;D</i>	<b>12</b>
“Push” mechanisms	5
“Pull” mechanisms	7
<i>Mechanisms incentivizing performance/results</i>	<b>5</b>
Supply side	3
Demand side	2
<b>TOTAL NUMBER OF MECHANISMS</b>	<b>31</b>

As Table 1 shows, the 31 mechanisms were comprised of 14 *novel financing mechanisms*, 12 *mechanisms to stimulate innovation, R&D*, and 5 *mechanisms incentivizing performance/results*.

As Table 2 shows, twelve mechanisms were characterized as “Public,” fourteen were “Mixed,” public-private efforts, and five were characterized strictly as “Private” (see Table 1). All five of the “Private” mechanisms were in the *novel financing* category; this category

also had six “Public” and three “Mixed” mechanisms (see Table 2). Among the 12 *mechanisms to stimulate innovation, R&D*, half were “Public” and half “Mixed.” Finally, among the 5 *mechanisms incentivizing performance/results*, one was “Public” and four “Mixed.”

Twenty-one of the mechanisms are currently operational, while 10 remain at the proposal stage. Those that are operational are: 10 of the 14 novel funding mechanisms, 7 of the 12 innovation and R&D mechanisms, and 4 of the 5 incentivizing results/performance mechanisms (see Table 2).

Although not a focus of this report, estimates of the potential for these innovative financing mechanisms to generate additional revenue, or leverage existing funding streams to make them go further, range significantly (see Appendix).

TABLE 2. INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH: Overview with Key Characteristics		
Mechanism Category Mechanism subcategory Mechanism Name	Type of Public/Private Involvement	Status
<b>Novel financing mechanisms</b>		
<b>Directing private investment</b>		
Exchange Traded Funds (ETFs)	Private	Operational
Impact Investing	Private	Operational
Risk Pooling/Credit Guarantees	Mixed	Operational
<b>Voluntary consumer-based funding</b>		
Mobile Phone Solidarity Contribution	Private	Operational
Consumer Product-Based Contribution	Private	Operational
Travel Purchase Solidarity Contribution	Private	Operational
<b>Front-loading funds</b>		
International Finance Facility (IFF)	Mixed	Operational
<b>Re-directing credits or debts</b>		
Buy-downs	Mixed	Operational
Debt Forgiveness for Health	Public	Operational
De-tax	Public	Proposed
IMF <sup>1</sup> Gold Sales/Special Drawing Rights	Public	Proposed
<b>New taxes or levies</b>		
Airline Ticket Tax	Public	Operational
Financial Transaction Tax (FTT)	Public	Proposed
Tobacco Solidarity Tax	Public	Proposed
<b>Mechanisms to stimulate innovation, R&amp;D</b>		
<b>“Push” mechanisms</b>		
Patent Fees/“Green Intellectual Property”	Public	Proposed
Patent Pools	Mixed	Operational
Pooled Funding	Mixed	Proposed
Product Development Partnerships (PDPs)	Mixed	Operational
R&D Tax Credits	Public	Operational
<b>“Pull” mechanisms</b>		
Advance Market Commitment (AMC)	Mixed	Operational
Medicines Subsidy	Mixed	Operational
Health Impact Fund	Public	Proposed
Milestone R&D Incentives	Mixed	Proposed
Priority Review Voucher	Public	Operational
End-Product Prizes	Mixed	Operational
Patent Review Voucher	Public	Proposed
<b>Mechanisms incentivizing performance/results</b>		
<b>Supply side results-based mechanisms</b>		
Cash-on-Delivery (COD) Aid	Public	Proposed
Performance-Based Financing (PBF)	Mixed	Operational
Results-Based Aid (RBA)	Mixed	Operational
<b>Demand side results-based mechanisms</b>		
Conditional Cash Transfers (CCT)	Mixed	Operational
Vouchers	Mixed	Operational
<b>Summary</b>		<b>Total number of mechanisms: 31</b>
<b><u>Mechanisms by Type of Public/Private Involvement</u></b>		<b><u>Count</u></b>
Public		12
Private		5
Mixed		14
<b><u>Mechanisms by Status</u></b>		<b><u>Count</u></b>
Operational		21
Proposal		10

<sup>1</sup> IMF = International Monetary Fund.

## U.S. GOVERNMENT PARTICIPATION

The “Public” and “Mixed” mechanisms were examined to assess whether the U.S. government is engaged with them either as a funder or implementer (“Private” mechanisms do not require government involvement to function and therefore are excluded from this portion of the analysis). This examination focused on those mechanisms that are currently operational, though implications of these findings for proposed mechanisms were considered, and are discussed below. Findings are summarized in Tables 3 and 4.

The findings show the U.S. government has demonstrated a greater willingness to engage with mechanisms that have private sector elements, such as the “Mixed” mechanisms of Risk Pooling/Credit Guarantees and Product Development Partnerships, but has been less likely to engage with purely “Public” mechanisms, especially those requiring legislative or regulatory changes leading to tax increases (such as a Financial Transaction Tax) or up-front, multi-year financial obligations (such as an International Finance Facility).

Among the 26 “Public” or “Mixed” mechanisms, 16 are operational, and of these, the U.S. government currently participates in or implements 9 (see Table 4). U.S. support was

TABLE 3. INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH: U.S. Government Participation		
Mechanism Category	Mechanism subcategory Mechanism Name	Engagement/ Participation from U.S. Government
<b>Novel financing mechanisms</b>		
<b>Directing private investment</b>		
	Exchange Traded Funds (ETFs)	N/A <sup>1</sup>
	Impact Investing	N/A <sup>1</sup>
	Risk Pooling/Credit Guarantees	Yes
<b>Voluntary consumer-based funding</b>		
	Mobile Phone Solidarity Contribution	N/A <sup>1</sup>
	Consumer Product-Based Contribution	N/A <sup>1</sup>
	Travel Purchase Solidarity Contribution	N/A <sup>1</sup>
<b>Front-loading funds</b>		
	International Finance Facility (IFF)	No
<b>Re-directing credits or debts</b>		
	Buy-downs	Yes
	Debt Forgiveness for Health	No
	De-tax	N/A <sup>2</sup>
	IMF <sup>3</sup> Gold Sales/Special Drawing Rights	N/A <sup>4</sup>
<b>New taxes or levies</b>		
	Airline Ticket Tax	No
	Financial Transaction Tax (FTT)	No
	Tobacco Solidarity Tax	No
<b>Mechanisms to stimulate innovation, R&amp;D</b>		
<b>“Push” mechanisms</b>		
	Patent Fees/“Green Intellectual Property”	No
	Patent Pools	Yes
	Pooled Funding	No
	Product Development Partnerships (PDPs)	Yes
	R&D Tax Credits	No <sup>6</sup>
<b>“Pull” mechanisms</b>		
	Advance Market Commitment (AMC) <sup>5</sup>	No
	Medicines Subsidy <sup>5</sup>	No
	Health Impact Fund	No
	Milestone R&D Incentives	No
	Priority Review Voucher	Yes
	End-Product Prizes	No <sup>7</sup>
	Patent Review Voucher	Yes
<b>Mechanisms incentivizing performance/results</b>		
<b>Supply side results-based mechanisms</b>		
	Cash-on-Delivery (COD) Aid	No
	Performance-Based Financing (PBF)	Yes
	Results-Based Aid (RBA)	Yes
<b>Demand side results-based mechanisms</b>		
	Conditional Cash Transfers (CCT)	Yes
	Vouchers	Yes
<sup>1</sup> Public or Mixed mechanisms only, not applicable (N/A) for Private mechanisms. <sup>2</sup> De-Tax only applicable where value-added tax (VAT)-based tax system is used; U.S. does not have a VAT-based tax system. <sup>3</sup> IMF = International Monetary Fund. <sup>4</sup> IMF Gold Sales and Special Drawing Rights listed as N/A due to multilateral nature of IMF governance; the U.S. share of IMF Executive Board vote is 16.76%. <sup>5</sup> AMC (the current pneumococcal vaccine AMC) and Medicines Subsidy (the current Affordable Medicines Facility-malaria, AMFm) are considered “pull” mechanisms because they are designed to increase the uptake of vaccines and malaria medicines, respectively; see Methods. <sup>6</sup> The US has supported R&D tax credits in some cases (e.g. “orphan drugs”, bioterrorism), but no such credits have supported for R&D for developing country-specific health issues. <sup>7</sup> The America COMPETES Act (H.R. 5116) gives agencies authority to use prizes for innovation, but no global health-related prizes have been supported to date.		

more common among the “Mixed” mechanisms compared to “Public” ones: eight of the 12 operational “Mixed” mechanisms are currently implemented or supported (the exceptions are the International Finance Facility, the Advance Market Commitment, the Medicines Subsidy, and End-Product Prizes), while only one of the four “Public” mechanisms is supported or implemented by the U.S. (the Priority Review Voucher, a U.S. government initiative, is the exception).

<b>TABLE 4. PUBLIC AND MIXED INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH: Counts by Key Characteristics and U.S. Government Participation</b>	
<b>Mechanisms by Key Characteristics</b>	<b>#</b>
<i>Public</i>	<b>12</b>
Operational	4
<i>Of which, supported by U.S. Government</i>	1
Proposed	8
<i>Of which, supported by U.S. Government</i>	0*
<i>Mixed</i>	<b>14</b>
Operational	12
<i>Of which, supported by U.S. Government</i>	8
Proposed	2
<i>Of which, supported by U.S. Government</i>	0
<i>Total Number of Public and Mixed Mechanisms</i>	<b>26</b>
<i>Of which, supported by U.S. Government</i>	<b>10</b>
*One proposed mechanism, the De-tax, is not applicable to the U.S. tax system and therefore not under consideration in the U.S.	

As noted above, the U.S. government has shown a greater tendency to engage with “Mixed” mechanisms over purely “Public” ones. Table 5 lists the mechanisms that already have some level of U.S. government support and includes illustrative examples of U.S. engagement.

Looking at those mechanisms in the proposal stage, if a similar pattern held U.S. involvement might favor those mechanisms that avoid new taxes or up-front multi-year financial obligations. Of the 10 “Public” or “Mixed” mechanisms that remain and are in the proposal stage, four are tax-based: one (the De-tax) requires a Value-Added Tax (VAT) system; the U.S. does not have a VAT-based tax system. Three others (the Financial Transaction Tax, Tobacco Solidarity Tax, and Patent Fees/“Green Intellectual Property”) derive funds through imposing taxes or fees.

Three other proposed *mechanisms to stimulate innovation, R&D* (Pooled Funding, Milestone-based Funding, and Health Impact Fund) have some similarities to operational mechanisms that the U.S. already supports (such as “Product Development Partnerships” and “Patent Pools”), though specific concerns with each of these proposals – from their cost-effectiveness to political and financial feasibility – would have to be considered prior to any decisions to support them. Another proposed *innovation, R&D mechanism* – Patent Review Vouchers – was originally proposed by the government and therefore has some level of support already.<sup>21</sup>

**TABLE 5. EXAMPLES OF U.S. GOVERNMENT ENGAGEMENT IN INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH \***

<b>Category</b>		
<b>Sub-category</b>	<b>Public or Mixed</b>	<b>Examples of U.S. Government Engagement</b>
<b>Novel financing mechanisms</b>		
<b>Re-directing credits or debits</b>		
Risk Pooling/Credit Guarantees	Mixed	The U.S. Overseas Private Investment Corporation (OPIC) provided \$2.4B of financing and insurance and USAID's Development Credit Authority (DCA) provided approximately \$500M in loan guarantees in 2010, though in both cases only a small proportion were in support of health-related projects. <sup>22,23</sup>
Buy-downs	Mixed	The U.S. Centers for Disease Control and Prevention (CDC) has participated in a multi-party buy-down of credit to Nigeria linked to achievement of polio vaccination targets. <sup>24,25</sup>
<b>Mechanisms to stimulate innovation, R&amp;D</b>		
<b>"Push" mechanisms</b>		
Patent Pools	Mixed	The U.S. National Institutes of Health has offered royalty free licenses for several proprietary HIV drug patents to the UNITAID Medicines Patent Pool. <sup>26,27</sup>
Product Development Partnerships (PDPs)	Mixed	In 2009 contributions from USAID and NIH to PDPs totaled \$45 million, comprising approximately 9 percent of total PDP funding. <sup>28</sup>
<b>"Pull" mechanisms</b>		
Priority Review Voucher (PRV)	Public	Authorizing legislation for the PRV passed by Congress in 2007, first PRV awarded by the FDA in 2009. <sup>29,30,31</sup>
<b>Mechanisms incentivizing performance/results</b>		
<b>Supply side results-based mechanisms</b>		
Performance-Based Financing (PBF)	Mixed	USAID has incorporated PBF into a limited number of its global health programs, often on a pilot basis, in countries such as Rwanda, Egypt, Haiti, and Honduras. <sup>32,33</sup>
Results Based Aid (RBA)	Mixed	The U.S. Millennium Challenge Corporation (MCC) utilizes an RBA approach, directing funding only to countries that qualify based on particular benchmarks outlined in advance (MCC health sector funding comprises approximately 2 percent of its total compact funding). <sup>34</sup>
<b>Demand side results-based mechanisms</b>		
Conditional Cash Transfers (CCT)	Mixed	USAID has implemented CCT programs for maternal health programs in countries such as India. <sup>35</sup>
Vouchers	Mixed	USAID-supported voucher programs targeting maternal health services have been implemented in countries such as Pakistan. <sup>36</sup>
* These are the ten operational <i>Public</i> and <i>Mixed</i> mechanisms among those included in the analysis that the U.S. currently supports or implements. <i>Private</i> mechanisms and <i>Proposed</i> mechanisms are not included in this table. These are illustrative examples, and do not fully describe all U.S. government support for each mechanism.		

The International Monetary Fund (IMF) *novel financing mechanisms* (IMF Gold Sales/Special Drawing Rights) would have to be initiated and implemented through the IMF governance apparatus, of which the U.S. is a part. While a single IMF member could not unilaterally require or prohibit adoption of one of these proposals, some countries do have more influence than others; for example, the U.S. has the largest voting share of any country on the IMF Executive Board (currently controlling 16.76% of all votes).<sup>37</sup>

Finally, "Cash on Delivery Aid," a proposed supply side results-based mechanism, would involve an upfront, multi-year funding obligation, and therefore U.S. support for the mechanism could face the same obstacles as similar mechanisms not currently supported by the U.S., such as the Advance Market Commitment or the International Finance Facility.<sup>38</sup>

## POLICY CONSIDERATIONS FOR U.S. ENGAGEMENT

As noted above, this analysis finds that nine of the 16 operational Mixed or Public Mechanisms are currently supported or implemented by the U.S. government, while seven are not; another ten have been proposed and are not currently supported or implemented by the U.S. government. This section gives an overview of policy considerations and potential barriers to further engagement with innovative financing mechanisms by the U.S.

### *MECHANISMS WITH CURRENT ENGAGEMENT*

For those nine mechanisms the U.S. government already supports or implements, policy considerations going forward center on whether or not the U.S. should increase or decrease its level of engagement with the mechanisms. For example, while the U.S. has in the past implemented Buy-downs for global health, there may be additional, unrealized opportunities to further U.S. goals through more extensive use of the Buy-down approach. Likewise, while Performance-based Financing and Vouchers have been incorporated as elements of U.S. programs in a limited number of countries, a question remains about whether or not wider (or narrower) application of these mechanisms is desirable. Similar policy debates around the proper level of U.S. engagement apply across all of the mechanisms the U.S. government supports.<sup>39</sup>

### *MECHANISMS WITH POTENTIAL ENGAGEMENT*

For those mechanisms with which the U.S. government does not currently engage, multiple factors could influence the decision to newly support a given mechanism. In some cases, policymakers may question the cost-effectiveness of an innovative mechanism in comparison to more traditional alternatives. For example, by law, the U.S. government is currently restricted from supporting the Affordable Medicines Facility for Malaria (AMFm), an example of a Medicines Subsidy, “pending compelling evidence of success” for the AMFm approach.<sup>40</sup> Other factors that could influence policy decisions on engagement with innovative financing mechanisms include: the applicability of the mechanism to or consistency with U.S. goals and objectives in global health, the viability of introducing the mechanism in the broader economic and political context, the amount and type of governmental involvement needed, and any legal, budgetary, or regulatory barriers that could limit or prevent the U.S. from supporting a given mechanism.

### *COMMON POLICY BARRIERS*

As summarized above, among the 26 “Public” or “Mixed” mechanisms, 16 are operational, and of these, the U.S. government currently participates in or implements nine (see Table 4). U.S. support is more common for “Mixed” mechanisms compared to “Public” ones. For the 14 operational and proposed mechanisms without U.S. support, which the U.S. could potentially engage with\*, we identified two policy barriers that commonly apply, over and above the other potential considerations of cost-effectiveness, impact, and viability, discussed above. These common policy barriers include a need to either 1) change U.S. tax policy (the case with five mechanisms) or 2) provide an upfront, multi-year funding commitment (the case with three mechanisms). These common barriers are summarized in Table 6 and discussed further below.

Among the other eight mechanisms that are not subject to either of these two policy barriers are some that share important similarities to those the U.S. already implements or supports. This could signal

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\* Though a Proposed mechanism, the Patent Review Voucher was counted as having U.S. support given that it is a U.S. proposal. This leaves 16 other “Public” or “Mixed” mechanisms the U.S. does not support. Of these, two are N/A for considerations of U.S. government participation for purposes of this report: the De-tax and IMF Gold Sales/SDR mechanisms.

that, setting aside potential cost-effectiveness and other considerations, they might face fewer policy hurdles to gain U.S. government support. For example, the Pooled Funding mechanism has similarities to the Patent Pool and Product Development Partnerships mechanisms to which the U.S. government already contributes. The Patent Review Voucher, which is similar in approach to the Priority Review Voucher, remains a proposed mechanism but is in fact a U.S. initiative and therefore already enjoys a level of government support.

Table 6 lists all of the mechanisms (operational and proposed) that the U.S. government does not currently support, along with the applicability of these policy barriers to each.

**Changes in Tax Policy.** Among the mechanisms that would require changes in tax policy are the: Airline Ticket Tax, Financial Transaction Tax, R&D Tax Credits, Patent Insurance/“Green IP,” and Tobacco Solidarity Tax. For example, an Airline Ticket Tax (which at least six other national governments have already implemented in support of the international drug purchasing fund UNITAID)<sup>41</sup> would require legislation to institute a new mandatory tax added to the sale of airline tickets in the U.S. Similarly, implementing a Financial Transaction Tax (which over 40 countries, including the United Kingdom, have already implemented in some form at a domestic level)<sup>42</sup> would require a new law that authorized such a tax in the U.S. A bill seeking to implement such a tax was introduced into the House of Representatives and referred to committee in 2010 (H.R. 5783, the “Investing in Our Future Act of 2010”), though the bill did not progress beyond that stage.<sup>43</sup> In addition, the current political climate is not favorable to additional taxes.

<b>TABLE 6. PRIMARY POLICY BARRIERS TO INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH NOT CURRENTLY IMPLEMENTED OR SUPPORTED BY THE U.S.*</b>			
<b>Category</b> Mechanism Name	<b>Requires Change(s) in Tax Policy</b>	<b>Requires Upfront Multi-Year Funding Commitment</b>	<b>Other Potential Barriers</b>
<b><i>Novel Financing Mechanisms</i></b>			
International Finance Facility		X	
Debt Forgiveness for Health			X
Airline Ticket Tax	X		
Financial Transaction Tax	X		
Tobacco Solidarity Tax	X		
<b><i>Mechanisms to Stimulate Innovation, R&amp;D</i></b>			
Patent Insurance/“Green IP”	X		
Pooled Funding			X
R&D Tax Credits	X		
Advanced Market Commitment		X	
End-Product Prizes			X
Medicines Subsidy			X
Health Impact Fund			X
Milestone-based R&D Incentives			X
<b><i>Mechanisms Incentivizing Performance/Results</i></b>			
Cash-on-Delivery Aid		X	
* Includes <i>Operational</i> and <i>Proposed</i> mechanisms. Not included in the table are: IMF Gold Sales/SDRs (which would require multilateral policy action through the IMF Board) and De-Tax (which requires a VAT-based tax system, not present in U.S.). The Patent Review Voucher is a mechanism proposed by U.S. government and therefore not included in this table.			



*Upfront, Multi-Year Funding Commitments.* Other innovative mechanisms require upfront, multi-year funding commitments, i.e. obligating funding now for expenditures in future fiscal years. Mechanisms facing this barrier include the Advance Market Commitment, the International Finance Facility, and Cash-on Delivery Aid, each of which is predicated on long-term promises of support, with donors having to provide future year expenditure commitments in advance, sometimes without even knowing for sure how large the future budgetary outlays will be.<sup>44</sup> U.S. agencies are typically prevented from making long-term discretionary spending commitments and obligations with U.S. federal funding and must instead ask, and receive Congressional approval for, their discretionary funds each year. Therefore, discretionary budget commitments for future years – sometimes five, ten, or more years out from the present – as are required by these mechanisms are largely prohibited, as specified by anti-deficiency laws dating back to the nineteenth century and codified under Title 31 of the United States Code, which specifically prohibits obligating “payment of money before an appropriation is made.”<sup>45</sup>

While obligating future expenditures that have not yet been appropriated is prohibited, Congress has the ability to appropriate funds for multiple years in advance through a process known as “advance appropriations,” which the Office of Management and Budget defines as “appropriations of new budget authority that become available one or more fiscal years beyond the fiscal year for which the appropriation act was passed.”<sup>46</sup> The advantage of such a construct is that a funding amount for a future year would not be “scored” – that is, counted – against the current fiscal year budget but would rather count against the year in which the appropriations legislation indicates it is to be made available.<sup>47</sup> Therefore, any advance-appropriated funds would be “budget neutral” for the current year. At the same time, because an advance appropriation would then be scored against the budget in the future year in which it is obligated, it would count against the agency’s budget ceiling in that year and therefore restrict its budgetary flexibilities. While the advance appropriations option has been exercised by Congress in the past in the context of several domestic programs,<sup>48</sup> this budgetary technique has not been utilized in the context of innovative financing mechanisms, so policymakers would have to weigh carefully the trade-offs between the risks and benefits of this approach, such as the potential implications for budget flexibility in future years.<sup>49</sup>

## SUMMARY AND CONCLUSIONS

Greater attention is now being paid to innovative financing mechanisms and the role they could play in maintaining and expanding the impact of global health programs. This growing interest is in part due to worries about the availability and sustainability of global health assistance made through traditional channels, especially given an environment of fiscal constraint prevalent in the wake of the recent global economic crisis. While not expected to serve as a replacement for traditional health financing, such mechanisms may help to supplement existing funding, increase its effectiveness, and incentivize innovation in targeted areas.

This analysis has summarized and categorized existing information on prominent innovative financing mechanisms for global health. Overall, 31 mechanisms were identified across three main categories: *novel funding mechanisms*, *mechanisms to stimulate innovation and R&D*, and *mechanisms incentivizing*

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<sup>†</sup> The U.S. government has, on two recent occasions, provided multi-year “pledges” of support for global health – to the Global Fund in 2010 for three years and the GAVI Alliance in 2011 for three years – but pledges are not equivalent to appropriations and future fiscal year funding for these pledges will still have to be authorized and appropriated by the U.S. Congress.



*performance and/or results.* These categories were further organized into sub-categories, identifying mechanisms that could be grouped together based on similarities in approach.

The U.S. government supports some of these innovative financing mechanisms but not others, in particular demonstrating a tendency to support mechanisms with “Mixed” – public-private – elements such as government funds used to catalyze private investments in health programs or R&D, over wholly government-based “Public” mechanisms such as new taxes. Among those mechanisms that are not already supported by the government, two main policy barriers emerge: the need to make changes in U.S. tax policy for some mechanisms, and the need for upfront, multi-year funding commitments to support others. While there are policy options available for overcoming these barriers, the risks and benefits of each potential policy course (over and above the policymakers’ assessment of each mechanism’s cost-effectiveness and political viability) should be given careful consideration going forward.

As the U.S. and other donors prepare for the G-20 Summit in France and the Fourth High Level Forum on Aid Effectiveness in Korea soon after, increasing attention will be placed on the role of innovative financing mechanisms, from the Financial Transaction Tax proposal that has received the most attention thus far and support from some donors (although not the U.S.), to mechanisms that include some level of private sector engagement and which have received support from the U.S. in the past. Consideration of the merits and effectiveness of expanding the use of these mechanisms, and careful examination of the roles they could play in light of growing pressure on aid budgets, will be important for the U.S. and other donors to assess. Moreover, the potential for such mechanisms to generate additional new revenue or make existing funding streams go further vary significantly and in part depend on the extent to which they might be adopted and level of commitment given to them. Ultimately, even if such mechanisms do gain more traction in the U.S. and elsewhere, it will be important to remember that the need for traditional health aid will persist.

## APPENDIX. INNOVATIVE FINANCING MECHANISMS FOR GLOBAL HEALTH: By Category, with Descriptions, Key Characteristics and Background Information

TABLE A-1. SELECTED NOVEL FUNDING MECHANISMS FOR GLOBAL HEALTH						
Mechanism	Status	Supported/ Implemented in the US?	Public, Private, or Mixed	Description	Countries/Organizations Supporting or Implementing	Revenue/Financing Estimates
Directing private investments						
Exchange Traded Funds (ETFs) <sup>i</sup>	Operational	Yes	Private	Private investment instruments traded on market exchanges linked to a cause, with part of collected fees transferred to fund global health programs.	Global Fund-linked index funds developed with Deutsche Bank debuted in 2010.	None available.
Impact Investing <sup>ii</sup>	Operational	Yes	Private	Investment assets pooling and directing private financing to support projects or industries in developing countries, with an explicit goal of generating social benefits along with financial returns.	Multiple; organizational supporters include the Global Impact Investors Network (GIIN).	Estimated potential capital investment totals of \$400B-\$1 trillion, potential profit of \$183-\$667B over 10 years for investments in selected business sectors (health being one) in poor countries.
Risk Pooling/ Credit Guarantees <sup>iii</sup>	Operational	Yes	Mixed	Mechanisms that seek to lower barriers to private investment in developing countries' health sectors by using public financing to share investment risks (risk pooling), or to fully or partially guarantee loans (credit guarantees).	Multiple; Examples include U.S. Overseas Private Investment Corporation (OPIC), USAID's Development Credit Authority (DCA), the World Bank's Multilateral Investment Guarantee Agency (MIGA), and UN Foundation's Pledge Guarantee for Health (PGH).	2010: OPIC provided \$2.4B of financing and insurance, DCA about \$500M in guarantees, and MIGA \$1.5B, but health sector projects were only a small proportion. The PGH had \$6 million initial investment in 2010, estimates transaction volumes could reach \$45m/year; PGH savings on a \$3m grant estimated at \$600,000.
Voluntary consumer-based funding						
Airline Ticket Voluntary Solidarity Contribution <sup>iv</sup>	Operational	Yes	Private	Voluntary additional charge added to purchase price of passenger airline tickets, which is donated to support health projects.	The MASSIVEGOOD organization is primary supporter and advocate. Ticket buyers in multiple countries (Spain was initial market) now have option to donate to UNITAID when purchasing through participating airline ticket wholesalers.	Voluntary contributions totaled \$200,000 for UNITAID in first 3 months of limited operation in 2010. Revenue estimates from worldwide participation: \$980M/year.
Mobile Phone Solidarity Contribution <sup>v</sup>	Operational	Yes	Private	One-time or recurring donations made by private individuals or companies through mobile phone bills.	Multiple	Estimated potential revenues of >\$800M annually. Over \$22M raised by Red Cross in 1 week after 2010 earthquake in Haiti.
Consumer Product- Based Donations <sup>vi</sup>	Operational	Yes	Private	Most prominent example is Product (RED), which partners with companies to direct a portion of proceeds from branded products to be directed to the Global Fund.	Multiple private retailers support (RED), such as The Gap, Starbucks, and Apple among others.	From 2006 to 2009, >\$150M provided to the Global Fund through this mechanism.
Front-loading funds						
International Finance Facility (IFF) <sup>vii</sup>	Operational	No	Mixed	An IFF "front-loads" funding through investment bonds backed by long-term donor pledges of assistance. An IFF-Immunization (IFFim) that supports GAVI is operational, while others remain proposals (such as an IFF for Health Systems).	Multiple; countries committing funding to the IFFim include Brazil, France, Italy, the Netherlands, Norway, South Africa, Spain, Sweden, and the United Kingdom; organizational supporters include the World Bank and the Gates Foundation.	Commitments to IFFim from 2006-2010 totaled \$5.9B, with \$2B already approved and \$1.25B distributed. Total anticipated disbursement to GAVI through this mechanism: \$4B.

TABLE A-1, continued. SELECTED NOVEL FUNDING MECHANISMS FOR GLOBAL HEALTH

Mechanism	Status	Supported/ Implemented in the US?	Public, Private, or Mixed	Description	Countries/Organizations Supporting or Implementing	Revenue/Financing Estimates
<b>Redirecting credits or debts</b>						
<b>Buy-downs</b> <sup>viii</sup>	Operational	Yes	Mixed	Typically coordinated through the World Bank (IDA), third-party donors “buy down” interest/principal on a loan, reducing borrowing costs and freeing up funds to be directed to health projects. Sometimes triggered through meeting performance benchmarks.	Multiple, including the World Bank, Gates Foundation, UN Foundation, and U.S. Centers for Disease Control.	\$100M buy-down facilitated \$190M for health in Pakistan and Nigeria; \$50M buy-down supported HIV/AIDS programs in Botswana. Estimated each \$1M in buy down funding results in \$2.0-2.2M for projects.
<b>Debt Forgiveness for Health</b> <sup>ix</sup>	Operational	No	Public	Lenders forgive developing country debt under condition that portion of funds be directed to health projects; Debt2Health is one example of this mechanism.	Through Debt2Health, Germany has cancelled debts with Indonesia, Pakistan, and Cote d'Ivoire, and Australia cancelled debts with Indonesia.	Debts of €50M, €40M, €19m, and AU\$75M forgiven in past years; estimated potential annual financing amount through this mechanism: up to \$100M.
<b>De-tax</b> <sup>x</sup>	Proposed	N/A	Public	A percentage of Value-Added Tax (VAT) waived and diverted to health programs	Proposal made by Italy. Not applicable in countries such as the U.S. that do not have a VAT system of taxation.	Estimated revenues from 1% VAT waiver: \$1.3B for Japan, Germany, France, and Italy combined.
<b>IMF Assets: Gold Sales/Special Drawing Rights (SDRs)</b> <sup>xi</sup>	Proposed	No	Public	Funds for health programs generated through IMF sales of gold reserves or distribution of “Special Drawing Rights” (SDRs) credits to developing countries. SDRs are financial assets that can be converted into cash or used to leverage credit terms.	Supporters have included the Center for Global Development, Jubilee USA, ActionAid, and ONE.	Following the global financial crisis, IMF allocated about \$250B in SDRs, with \$165B going to developed countries; full amounts could potentially be converted. There currently is no cap on value of potential additional SDR distributions.
<b>New taxes or levies</b>						
<b>Airline Ticket Tax</b> <sup>xii</sup>	Operational	No	Public	Small, obligatory tax on international passenger airline tickets, currently ranging from \$1 to \$40 (sometimes depending on ticket class) in countries where operational.	As of Sep 2011, nine countries support UNITAID through this mechanism: Cameroun, Chile, Congo, France, Madagascar, Mali, Mauritius, Niger, and Republic of Korea.	UNITAID reports receiving approximately \$2B in funds through airline ticket taxes between 2006 and April 2011.
<b>Financial Transaction Tax (FTT)</b> <sup>xiii</sup>	Proposed	No	Public	Small, obligatory tax on financial transactions. An FTT can be imposed on transactions involving a range of asset types, such as currency, derivatives, and equities.	At least 40 countries already institute a domestic FTT. France is primary governmental proponent of international FTTs; European Parliament voted in favor of an EU FTT in March 2011. US bill H.R. 5783 (2010) sought to implement a currency transaction tax in the U.S.	Estimated annual revenues from an international currency transaction tax (at proposed rate of 0.005%), is \$25B to \$34B.
<b>Tobacco Solidarity Tax</b> <sup>xiv</sup>	Proposed	No	Public	Also called a “Solidarity Tobacco Levy” (STL), it is a “micro-tax” on tobacco sales amounting to 5, 3, or 1 cent per pack depending on country income classification.	World Health Organization	Estimated potential revenues from 5-cent tax: \$4B annually (high-income countries). Taxes across G20 countries could generate >US \$7B annually.

TABLE A-2. SELECTED MECHANISMS TO STIMULATE INNOVATION, RESEARCH AND DEVELOPMENT FOR GLOBAL HEALTH						
Name	Status	Supported/ implemented in the U.S.	Public, Private, or Mixed	Description	Countries/Organizations Supporting or Implementing	Financing Amounts
“Push” mechanisms						
Patent Fees/ “Green IP” <sup>xvi</sup>	Proposed	No	Public	Would add new, obligatory fees for patent applicants and patent holders to raise resources for neglected disease R&D and technology transfer. In return for fees, patentees would obtain insurance to compensate them for losses from intellectual property encroachment.	Green Intellectual Property Project	Potential financing generated through this mechanism estimated at >\$50 billion based on 2003-2004 patent market.
Patent Pools <sup>xvi</sup>	Operational	Yes	Mixed	Patent-holders share proprietary molecules, drugs, manufacturing processes, etc. to stimulate collaborative R&D. Patent holders can either share patents royalty-free or receive payments from use of their patent(s).	UNITAID’s Medicines Patent Pool for HIV medicines initiated in 2008. Roche and Gilead have agreed to participate and NIH provided royalty-free licenses. GlaxoSmithKline’s Pool for Open Innovation against Neglected Tropical Diseases initiated in 2009, administered by BIO Ventures for Global Health.	None available.
Pooled Funding <sup>xvii</sup>	Proposed	No	Mixed	Private and public donors collectively fund an investment pool, which is directed to a jointly agreed-upon R&D project portfolio.	Novartis proposed a Fund for Research in Neglected Diseases (FRIND), the George Institute proposed an Industry R&D Facilitation Fund (IRFF), and IAVI proposed a PDP Finance Facility (PDP-FF).	One proposal estimates resources required to support R&D portfolio for 10 high-profile diseases for 10 years to be \$6-10B.
Research and Development Tax Credits <sup>xviii</sup>	Operational (in UK)	No	Public	Companies provided tax credits for investments made in neglected disease R&D.	U.K. provides R&D tax credits through R&D and “Vaccine Research Relief” programs. Genzyme (U.S. biotechnology company) has supported a bill on R&D tax credits in the U.S. congress (H.R. 3156, 2009).	U.S. H.R. 3156 would provide companies with 50% credit for “non-clinical” expenses for R&D focused on a defined set of neglected diseases.
Product Development Partnerships (PDPs) <sup>xix</sup>	Operational	Yes	Mixed	Private/public/academic partnerships facilitating cooperative R&D on products for global health.	Multiple; major donors and supporters include Gates Foundation, USAID, and NIH. Three largest PDPs in 2009 were PATH, IAVI, and the Aeras Global TB Foundation.	Global PDP funding estimated at \$530M in 2009, with an estimated 26 PDPs working on approximately 122 products.

TABLE A-2, continued. SELECTED MECHANISMS TO STIMULATE INNOVATION, RESEARCH AND DEVELOPMENT FOR GLOBAL HEALTH						
Name	Status	Supported/ implemented in the U.S.	Public, Private, or Mixed	Description	Countries/Organizations Supporting or Implementing	Financing Amounts
<b>"Pull" mechanisms</b>						
<b>Advance Market Commitments (AMCs)<sup>xix</sup></b>	Operational	No	Mixed	A guaranteed advance purchase contract, backed by donors, for a desired product. Aims to incentivize private R&D and/or greater dissemination of product. The only currently operating AMC is to fund purchases of pneumococcal vaccine for GAVI.	UK, Italy, Canada, the Netherlands, Sweden, and the Gates Foundation fund the pneumococcal AMC in support of GAVI; technical and other support provided by UNICEF, WHO, and the World Bank.	\$1.5 billion in initial funding provided by donors for pneumococcal AMC; credited with reducing pneumococcal vaccine price from \$70 to \$7 per dose for GAVI-eligible countries.
<b>Medicines Subsidy<sup>xxi</sup></b>	Operational (pilot)	No	Public	Fund that attempts to reduce consumer price of, expand access to medicines through subsidizing first-line purchases of drugs from manufacturers. One example, the Affordable Medicines Facility for Malaria (AMFm), seeks to increase access and reduce prices for artemisinin-combination therapies and is currently in pilot study stage.	Global Fund, UNITAID, and the United Kingdom.	Approximately \$225 million provided for two-year AMFm pilot; 2010 prices for targeted antimalarials reduced 80% from 2008-2009 prices for first-line buyers following negotiations and subsidy.
<b>Health Impact-Based Funding<sup>xxii</sup></b>	Proposed	No	Public	Pool of public donor funds distributed to innovators of new medicines and vaccines based on their assessed health impact.	Incentives for Global Health	The recommended initial funding requirement is \$6 billion to cover an estimated portfolio of 20 drugs.
<b>Milestone R&amp;D Incentives<sup>xxiii</sup></b>	Proposed	No	Mixed	Product developers receive monetary rewards set up in advance as they complete milestones in the R&D/clinical trial process for target products.	BIO Ventures for Global Health	N/A
<b>Priority Review Voucher (PRV)<sup>xxiv</sup></b>	Operational	Yes	Public	Developers of drug/product for a neglected disease receive a voucher for priority (accelerated) Food and Drug Administration (FDA) review on another product.	United States (FDA). First ever PRV voucher awarded in 2009 to Novartis following approval of its malaria drug Coartem.	Estimated value of a PRV ranges from \$100m to \$500m; cost to FDA's for performing priority review estimated at \$5.4m.
<b>End-Product Prizes<sup>xxv</sup></b>	Operational	No	Mixed	First innovator to develop a product that meets specified guidelines receives a monetary prize (at a set amount or one proportional to impact).	Multiple, including the U.S. America COMPETES Act (HR 5116), re-authorized in December 2010, provides U.S. agencies authority to use prizes for innovation.	N/A
<b>Patent Review Voucher<sup>xxvi</sup></b>	Proposed	Yes	Public	Provides a voucher for "fast-track" US Patent & Trademark Office (USPTO) patent examination for innovators making a technology available for humanitarian purposes, such as for vaccine or medicine development for neglected diseases.	USPTO pilot program for the fast-track patent examination voucher announced in September 2010.	N/A

TABLE A-3. SELECTED MECHANISMS TO INCENTIVIZE PERFORMANCE/RESULTS IN GLOBAL HEALTH						
Name	Status	Supported/ implemented in the U.S.	Public, Private, or Mixed	Description	Countries/Organizations Supporting or Implementing	Financing Amounts
Supply-side results-based mechanisms						
Cash-on-Delivery (COD) Aid <sup>xxviii</sup>	Proposed	No	Public	Donor aid provided to recipient country/organization only <i>after</i> a project has been completed, the amount of which is tied to the recipient's success in demonstrating improvements in results indicators.	Proposed by the Center for Global Development in 2010. The United Kingdom has stated an intention to pilot several COD projects in the coming years.	N/A
Performance-Based Financing (PBF) <sup>xxviii</sup>	Operational	Yes	Mixed	Financing of providers/implementers of health projects which ties funding to achievement of results (impacts/outcomes), the terms of which are agreed upon prior to disbursement.	Multiple, including World Bank, Argentina, and Burundi. Norway and the United Kingdom have supported a World Bank- administered Health Results Innovation Trust Fund (HRITF), which supports PBF efforts in several countries.	\$500M has been pledged to support the HRITF. <i>Plan Nacer</i> , in Argentina, provides PBF-based support to providers of maternal and child health programs for the poor (\$438M in loan support from World Bank). A Burundi project (\$25M World Bank grant support) aims to improve MCH services delivery and utilization.
Results-Based Aid (RBA) <sup>xxix</sup>	Operational	Yes	Mixed	International donor assistance provided to a recipient government that ties financing to achievement of certain pre-defined results (such as desired impacts or outcomes).	Multiple, including the Global Fund, U.S. Millennium Challenge Corporation (MCC), and GAVI. Global Fund requires achievement of benchmarks for full aid dispersal; Aid through GAVI's Immunization Services Support (ISS) based on number of children vaccinated. MCC provides aid only after countries exceed defined benchmarks	Global Fund to date has provided \$21.7B in RBA-type funding to 150 countries. MCC has provided over \$7B in RBA-based compact funding, of which approximately \$950M has been focused on health, water, and sanitation.
Demand-side results-based mechanisms						
Conditional Cash Transfers (CCT) <sup>xxx</sup>	Operational	Yes	Mixed	Cash payments provided directly to individuals that engage in desired health-supporting behaviors, such as pregnant women completing prenatal care visits, parents fully immunizing their children, or parents keeping children in school.	Multiple, including Mexico, Honduras, Colombia, Nicaragua, and Rwanda; support from World Bank.	Mexico's <i>Oportunidades</i> Program: \$1.5M loan support from World Bank.
Vouchers <sup>xxxi</sup>	Operational	Yes	Mixed	Vouchers are unconditional cash transfers that provide patients/clients of the health care system access to key services, such as prenatal care visits, at reduced or no cost.	Multiple, including Bangladesh, India, and Cambodia. Support from USAID, World Bank, and others.	None



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